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Application of Artificial Intelligence Global Best Practices in Business Education: Perception of Business Educators and Students in South-East Nigeria

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Abstract

Using descriptive survey design, this study was carried out to determine how artificial intelligence can be applied in reinvigorating business education system for global best practices. The population for the study was 190 respondents, which comprised of 20 business education lecturers and 170 business education undergraduate students in a large university in South-East Nigeria. The entire population was studied. A 20-item questionnaire, structured on a five-point response scale ranging from Very Highly Required (5) to Not Required (1) was used for data collection. The questionnaire was validated by three experts in Business Education. Cronbach Alpha reliability test was used to establish the internal consistency of the items and a co-efficient of 0.87 was obtained. Mean and t-test statistic were used to analyse the data collected. Findings indicate that AI can help in diagnosing the strengths or gaps in students' knowledge, providing automated feedback among others. It was also found that schools need tech-savvy personnel to coach business educators and guide them to acquire skills that are critical in the digital age. Based on the findings, it was recommended that stakeholders should collaboratively develop an effective AI Integration framework based on global best practice and build capacity of teachers and students to implement the framework.

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Introduction

The present world is generally undergoing changes due to the high rate of knowledge explosion and technological advancement. Artificial intelligence (AI) is the main catalyst for emerging technologies such as big data, Internet of Things and robotics. It is the impersonation of human knowledge procedures, such as discourse and visual acknowledgment, interpretation of the dialects and virtual decision making by machines and robots (Gibney, 2017). Artificial intelligence (AI) is characterized as the capacity and improvement of a data innovation based on computer frameworks. It involves the use of different smart machines to finish the jobs that typically require human knowledge and rational thinking (Suvrat & Roshita, 2019).

While all areas of human endeavor have been affected by technological advancements (Asogwa, Okanya, Ahuoiza, Okechi, Edozie & Ezugwu, 2022), the impact of AI in the business world is tremendous and has consequences for all other fields. AI is at the core of innovations across various industries globally, enabling advancements that were previously unimaginable. For instance, image recognition tools are beginning to outperform physicians in detecting forms of skin cancer. Similarly, in the legal profession, e-discovery technologies, capable of scanning and interpreting millions of documents is reducing the need for large teams of lawyers and paralegals in case preparation (Siau, 2017). AI and other emerging technologies are displacing current jobs and workers (Okereke, Okanya, Okafor & Ebiegberi, 2022). At the same time, these technologies are creating many new jobs that have little to no resemblance to the jobs that exist today. These jobs are novel, requiring skills and training for which there is no precedents (Sollosy & McInerney, 2022). It is therefore clear that AI has changed (and is still changing) what work is done and how work is done in business organisations, hence, altering the skills in demand in various fields. It is this continuous change in demand and valuation of skills in the labour market that has made emerging technologies a focus of higher education.

In particular, business education, which is the aspect of education that has the mandate to educate and train business students and practitioners, needs to adapt rapidly. Typically, Business education programmes empower graduates with desired skills, knowledge and values that would make them to be self-employed or employable by others. Accordingly, Edokpolor, et al, (2016) state that business education prepares students for careers in business by inculcating skills, knowledge and competencies useful in the business world and the society at large. Similarly, Etong, (2016) stated that business education is a part

of vocational and technical education that empowers students with the knowledge, skills and competencies for a teaching career in academics, business expertise, office occupation, and self-reliance. The programme is geared towards facilitating graduate employment, relevant for human growth, development and sustainability of the Nigerian economy.

In order for business education programmes to produce people who can function effectively in the global labour market as employers or employees, the programmes must adopt global best practices in teaching and learning. Global best practices in this study are a set of practices, methods, techniques and mechanisms that have been tested and found to be result-oriented at a global level (Pedró, 2020). Given the fact that these practices have worked and produced results globally, they serve as examples and templates; and set the pace for others to follow. A major practice in higher education institutions across the globe is the integration of technology such as AI in teaching and learning. As the use of AI is becoming more common in various industries, a curriculum for AI in business education is required. Artificial intelligence is important for teachers and students in business education because application of such technologies offer more flexible learning solutions. For instance, AI enhances engagement, personalized learning, improves teaching effectiveness and assists in administrative tasks (Zhao, 2024). AI can assist teachers to assess the understanding capacity of their students and empower them to give the appropriate clues for students (Jho, 2017). Moreover, business educators can mechanise grading of students for certain fixed set of questions (Renz, Krishnaraja, & Gronau, 2020). Based on the foregoing, it is clear that AI can help students learn concepts easily, and at their own pace.

Since AI is applicable in schools and the world of work, it has become needful to create and adopt AI literacy competency/curriculum that can encompass technology utilization in business education programmes (Makridakis, 2017). Business education programmes need to integrate AI frameworks to enable the programmes in Nigeria align with others around the world on issues concerning of AI. This alignment is necessary as it would help programmes in Nigeria to produce students who can compete globally. In addition, the integration of AI in business education process will allow students to gain experiential learning that prepares them for the AI driven business environment. Effective integration of AI in business education requires some research-based information to provide reliable guidance but there are only a few studies for AI in business education (Vickers, 2017). However, given that AI can significantly improve business education processes, AI

in business education remains an important area for on-going research and development (Zhao, 2024; Surugiu et al, 2024). This study contributes to closing this gap by determining how the adoption of artificial intelligence will improve teaching and learning in business education programmes as well as determine the strategies for promoting the introduction and use of artificial intelligence for business education programmes in Nigeria. It is anticipated that the output of this study will provide reliable information that will guide the integration of AI into business education programmes.

Theoretical framework

This research employs the Unified Theory of Acceptance and Use of Technology (UTAUT) framework to analyze the acceptance and utilization of artificial intelligence (AI) within business education programs. The UTAUT, developed by Venkatesh et al. in 2003, is a model designed to predict and explain technology adoption. It identifies four essential factors influencing user behavior: *Performance Expectancy* (the belief that technology improves performance), *Effort Expectancy* (the perceived ease of use), *Social Influence* (the impact of peers and influential individuals), and *Facilitating Conditions* (the availability of resources and support for technology usage). Together, these elements provide a comprehensive understanding of technology adoption, shaping the behavioral intentions of students and educators to accept and integrate AI into business education. This study examines how these intentions manifest in the context of business education, especially with respect to performance expectancy (how AI enhances learning processes and outcomes). It also highlights social influence (recommendations from students and instructors), and facilitating conditions (access to training and resources) playing a critical role in the adoption of AI by business educators and students.

Research questions

The following research questions guided the study:

1. How will the adoption of artificial intelligence improve the teaching and learning of business education programme in Nigeria?
2. What are the strategies for promoting the introduction and use of artificial intelligence for business education programmes in Nigeria?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

1. There is no significant difference in the mean responses of lecturers and students on how the adoption of artificial intelligence will improve the teaching and learning of business education programme in Nigeria.
2. There is no significant difference in the mean responses of lecturers and students on the strategies for promoting the introduction and use of artificial intelligence for business education programmes in Nigeria.

Methodology and procedures

The study adopted a descriptive survey design. According to Eze and Ezenwafor (2015), descriptive survey is one in which a group of people or items are studied by collecting and analyzing data from only a few people or items considered to be representative of the entire population. The study was carried out in the south-eastern part of Nigeria. The entire population of 190 respondents, which comprised of 20 business education lecturers and 170 business education undergraduate students in the University of Nigeria, Nsukka was studied without sampling. The instrument used for data collection was a 20-item questionnaire, structured on five-point response options of: Very Highly Required (VHR) – 5; Highly Required (HR) – 4; Required (R) -3; Moderately Required (MN) -2; and Not Required (NR) -1. Face validation of the instrument was carried out by three experts in Business Education.

Cronbach Alpha was used to establish the internal consistency of the items in the instrument. The reliability co-efficient of 0.87 was obtained which indicated that the instrument was reliable. Mean was used to answer the research questions while t-test was used to test the null hypothesis at 0.05 level of significance. Any item with a mean value of 3.00 and above was regarded as required while any item with a mean value below 3.00 was regarded as not required. Using the t-test statistic, the null hypothesis was rejected when the t-calculated value was greater than the t-critical but retained when the calculated value is less than t-critical value of 1.96.

Results

Table 1: Mean responses and t-test analysis of lecturers and students on how the adoption of artificial intelligence will improve the teaching and learning of business education programme in Nigeria. N= 190

S/N	Items:	X _G	SD _G	X ₁	SD ₁	X ₂	SD ₂	t-cal	Sig (2-Tailed)	Rmks RQ Ho
1	AI can help in diagnosing the strengths or gaps in students' knowledge, and providing automated feedback	4.99	1.16	4.99	1.13	4.98	1.19	0.03	HR	NS
2	AI can help in the organization and presentation of learning materials based on the needs of the students	4.13	0.92	4.14	0.91	4.11	0.93	0.13	HR	NS
3	AI can help in facilitating collaboration between students and their lecturers	4.44	0.62	4.47	0.60	4.40	0.63	0.46	VHR	NS
4	AI can help in the maximization of the teaching effort, with the aim of reducing the teacher's workload	4.49	0.90	4.54	0.90	4.44	0.97	0.48	HR	NS
5	AI can help the teachers by using available academic data to monitor and guide students	4.49	0.57	4.49	0.57	4.48	0.57	0.07	HR	NS
6	AI can help the teachers in organizing teaching course contents and recommending customized content for their students	4.56	0.50	4.56	0.50	4.55	0.50	0.05	HR	NS
7	Accurate prediction of student performance by AI can be critical to making admissions decisions and providing better educational services	4.37	0.73	4.38	0.73	4.37	0.74	0.05	VHR	NS
8	AI can track learning outcomes and can be used to determine contents appropriate to the student's level of difficulty	4.37	0.89	4.40	0.89	4.33	0.96	0.34	VHR	NS
9	AI can help create a better professional environment for teachers to work more on students with difficulties	4.44	0.50	4.43	0.50	4.44	0.50	0.50	VHR	NS
10	AI can personalize learning and improve opportunities for students with the help of their teachers and schools	4.47	0.76	4.49	0.76	4.44	0.80	0.27	HR	NS
11	AI combination can grade essays, papers and tests in seconds. so that the teachers can be face more value-based work	4.28	0.84	4.31	0.84	4.25	0.85	0.28	HR	NS
12	AI-powered software, games and tools can set a strategy for students to learn at their speed, time and requirements for repeated practice.	4.60	0.56	4.61	0.56	4.59	0.57	0.16	VHR	NS
13	AI-assisted classroom environment can help teachers customize individual lesson plans based on students' individual needs	4.63	0.56	4.63	0.56	4.62	0.56	0.15	VHR	NS
14	AI monitoring and evaluation tools can streamline content for different learning styles and match pace with diverse learning curves.	4.31	0.66	4.33	0.66	4.29	0.66	0.23	HR	NS
15	AI-powered gamification can make learning more engaging and enjoyable by using game elements such as points, badges and leader boards to motivate students and help them develop problem-solving and critical thinking skills.	4.41	0.63	4.42	0.63	4.40	0.63	0.09	HR	NS
Grand Mean and Standard Deviation		4.47	0.77							

Note: X_G= Total mean; SD_G = Standard deviation total; X₁=mean of lecturers; SD₁= Standard deviation of lecturers; X₂ = mean of students; SD₂ =Standard deviation of students; N₁ = Number of lecturers (20); N₂ = Number of students (170).

Table 1 revealed that all the 15 items had their mean values ranging from 4.14 to 4.99, which were above the criterion mean of 3.00, indicating that the respondents agreed that all the 15 items are how the adoption of artificial intelligence will improve the teaching and learning of business education programme in Nigeria. The grand mean of 4.47 with standard deviation of 0.77 suggested that adoption of artificial intelligence will improve the teaching and learning of business education programme. The t-

calculated values of all the items ranged 0.03 to 0.50 were lower than the t-critical value of 1.96 at an alpha level of .05. The result therefore indicated that no significant differences exist in the mean response of two groups of respondents. It was therefore concluded that there is no significant difference in the mean responses of lecturers and students on how the adoption of artificial intelligence will improve the teaching and learning of business education programme in Nigeria. The hypothesis was retained.

Table 2: Mean Responses and t-test analysis of lecturers and students on the strategies for promoting the introduction and use of artificial intelligence for business education programmes in Nigeria. N= 190

S/N	General strategies:	X _G	SD _G	X ₁	SD ₁	X ₂	SD ₂	t-cal	Sig (2-Tailed)	Rmks RQ Ho
1	A curriculum reform which will enable the adoption of the use of AI in business education should be initiated	4.99	1.16	4.99	1.13	4.98	1.19	0.03	HR	NS
2	Adequate funds should be made available for the purchase of technological facilities for development of AI framework.	4.13	0.92	4.14	0.91	4.11	0.93	0.13	HR	NS
3	Government and school administrators can liaise with some tech-companies to provide special AI facilities for the school system.	4.44	0.62	4.47	0.60	4.40	0.63	0.46	VHR	NS
4	Schools can employ tech-savvy personnel who will coach/train educators on the use of AI framework in teaching and learning.	4.49	0.90	4.54	4.44	0.97	0.97	0.48	HR	NS
5	Educators should actively change their way of thinking, explore new forms of combining AI and teaching, and promote the deep integration of technology and teaching.	4.49	0.57	4.49	4.48	0.57	0.57	0.07	HR	NS
Grand Mean and Standard Deviation		4.47	0.77							

Table 2 revealed that all the 5 items had their cluster mean values ranging from 4.99 to 4.13, which were above the criterion mean of 3.00 indicating that the respondents agreed that all the 5 items are the strategies for promoting the introduction and use of artificial intelligence for business education programmes in Nigeria. The grand mean of 4.47 with standard deviation of 0.77 suggested that the items were perceived as highly required by the respondents as the strategies for promoting the introduction and use of artificial intelligence for business education programme. The t-calculated values of all the items ranged 0.03 to 0.48 were lower than the t-critical value of 1.96 at an alpha level of 0.05. The result therefore indicated that no significant differences exist in the mean responses of two groups of respondents. It was therefore concluded that there is no significant difference in the mean responses of lecturers and students on the strategies for promoting the introduction and use of artificial intelligence for business education programmes in Nigeria. The hypothesis was retained.

Discussion of findings

The findings of the study revealed how the adoption of artificial intelligence will improve the teaching and learning of business education programme. Some of them include: that AI can help in diagnosing the strengths or gaps in students' knowledge, and providing automated feedback and

that AI can help in the organization and presentation of learning materials based on the needs of the students. These findings are in line with Sullivan, and Bers, (2017) who stated that AI can be used to provide customized and adaptable learning paths through specific objectives set by the teacher or student to support the learning process. The study is also similar to Perera, and Aboal, (2018) who stated that AI could help to increase students' motivation learning for learning, thereby drastically reduce the rate of drop-out or inactivity.

The study also determined the strategies for promoting the introduction and use of artificial intelligence for business education programmes. Some of these strategies include that: a curriculum reform which will enable the adoption of the use of AI in business education should be initiated and that adequate funds should be made available for the purchase of technological facilities for development of AI framework. These findings are in line with Sharma, (2018) who, provision of funds is a major factor that will aid the development of AI in the education sector. These findings are consistent with Shehu, (2013) who stated that Nigerian universities, technical colleges and technical teachers face problems of high-level shortage of adequate teaching facilities for teaching vocational and technical subjects and as such, more funds should be provided to support the programme.

Conclusion

Artificial Intelligence is a booming technological advancement which is changing every aspect of social interactions. In education, AI has begun producing new teaching and learning solutions that are now undergoing testing in different educational contexts and business education should not be left out. This growth is driven by increasing demand for personalized learning, improved student outcomes, and the adoption of AI-based educational solutions by educational institutions worldwide. As AI technology continues to evolve and become more sophisticated, it has the potential to transform the way students learn and educators teach. Business educators must consider strategizing a digital transformation within the scope of their domain to incorporate the right AI applications that produce the expected results and align it to global best practice. It is also clear that without meaningful and functional policies, a successful AI implementation is unlikely to be achieved in business education.

Recommendations

Based on the findings, we recommend as follows:

1. Curriculum review

Government agencies responsible for curriculum development should ensure that those artificial intelligence topics are captured in the curriculum. Curriculum should encourage the teaching of how to use artificial intelligence ethically and effectively. In the same vein, educational administrators and management of business education programmes in tertiary institutions should set-up and support ad-hoc committees to review existing curriculum with a view to introduce the adoption of artificial intelligence in business education curriculum. Also, the development of a well-defined institutional vision, mission, and goal for artificial intelligence. The goals should be in the short, medium and long terms.

2. AI integration framework

Educational administrators, management of business education programmes as well as business educators should set-up and support ad-hoc committees that will define and determine AI objectives for various aspects of the business education system. They should develop a framework for AI integration that meets users' needs and comply with global best practices for AI integration. Based on the findings, the integration should go beyond curriculum

design/redesign through teaching and learning processes to assessments and feedback.

3. Capacity building

Educational administrators, management of business education programmes as well as business educators should determine the training needs for implementing the framework for AI integration in each strategic aspect. Management of business education programmes should ensure appropriate capacity building to equip stakeholders with the skills they need to use AI as specified by the framework. Particularly, schools need tech-savvy personnel to coach business educators and guide them to acquire skills that are critical in the digital age

4. Management commitment

School administrators and management of business education programmes must show leadership interest, strong financial and personal commitments by ensuring that stakeholders utilise the framework provided, and also by providing resources (continuous electricity supply and internet) to enable learners and educators utilise AI in the specified way. Management of business education programmes can develop partnership with private internet service providers to increase government bandwidth and speed of internet access; government should promote private ownership of computers and resources to complement government's efforts.

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